ICOM

PRE-RELEASE INFORMATION

HF/50MHz TRANSCEIVER

IC-7700

Taking the Excitement of the Chase to New Heights



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IC-7700

+40dBm ultra high intercept point

By sparing no expense throughout the signal chain, Icom has developed an amateur rig that challenges the performance of any "Military Grade" transceiver. You'll enjoy a +40dBm* 3rd order intercept point and ultra wide dynamic range that is, like its IC-7800 "big brother", amateur radio's highest. The IC-7700 continues Icom's setting of the bench mark for HF transceivers. Examples include the use of mechanical relays instead of non-linear semi-conductors and high performance DMOS mixers with a high-drive Local Oscillator. Using only two IF stages and Icom's image rejection technology, enables the IC-7700 to clearly reproduce very weak signals as well as very strong signals without distortion. * HF bands.

3kHz roofing filter

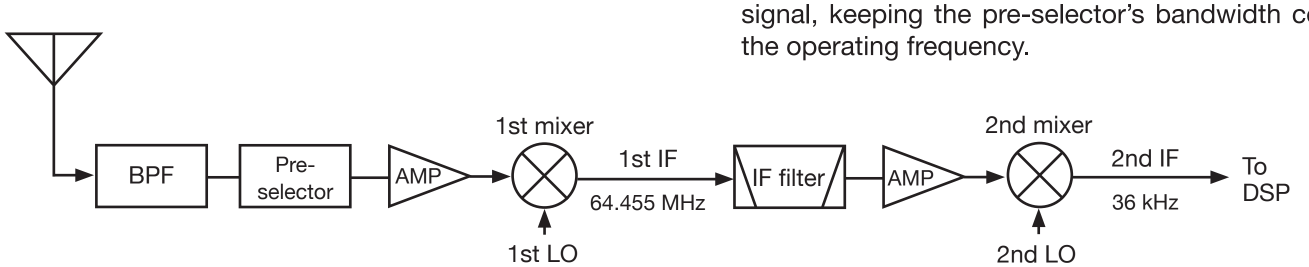
In addition to the 6kHz and 15kHz roofing filters, the IC-7700 has a 3kHz roofing filter before the 1st amplifier. It provides superior blocking dynamic range and allows you to pull out a weak signal while blocking strong adjacent signal.

Two 32-bit floating point units

Two independent DSP units (of the same type used in the IC-7800) are built-in: One for the transmitter and receiver; and one for the spectrum scope. The IC-7700 expands on the phenomenal performance of the 32-bit DSP that Icom introduced to the amateur world.

Automatic tracking pre-selector

As your first line of defense against interfering signals, the pre-selector rejects unwanted out of band interference from multi-multi operation or strong broadcast stations. The 7700's pre-selector automatically tracks the intended signal, keeping the pre-selector's bandwidth centered on the operating frequency.





200W output power at full duty

The push-pull power amplifiers using power MOS-FETs work on 48V DC. They provide a powerful 200W output power at full duty cycle and low transmit intermodulation. An effective cooling system maintains internal temperatures within a safe range and prevents thermal runaway.

Ultra high frequency stability

Your IC-7700 shares the IC-7800's standard stability of ±0.05ppm! Even on 6m band, that is less than 3Hz error from the Oven Controlled Crystal Oscillator! Also, a 10MHz reference frequency can be input/output for external equipment.

7-inch wide color TFT LCD

Contesting is often a marathon sport. Be kind to your eyes! The large 7-inch wide (800×480 pixels) color display has to be seen to be believed! A high linearity needle S-meter, multi-function spectrum scope and RTTY/PSK31 messages are displayed in vivid color. In addition, the IC-7700 has a VGA connector allowing you to connect an external monitor.

Multi function spectrum scope

With the dedicated DSP unit, the spectrum scope offers linearity, accuracy and resolution. By adjusting the scope selectivity, the spectrum scope allows you to find those weak signals right next to strong ones! With this ground breaking scope, you can even monitor the distortion or width of the received signals. In addition, the scope range can be set independently from the receiving frequency. You can monitor the band condition between the selected sweep edges, as well as sweep a selected band width centered on the receiving frequency in the scope screen.



RTTY /PSK31 operation without PC connection

The IC-7700 has a modulator and demodulator for the 2 major HF amateur digital modes. It is possible to encode and decode PSK31 as well as baudot RTTY signals by simply connecting a USB keyboard to the IC-7700. You no longer need to connect a PC for RTTY/PSK31 operation. In addition, transmitted and received messages can be stored to a USB memory device and transferred to your PC.

IF notch filter with adjustable notch filter characteristics

The IC-7700's DSP controlled manual notch filter shape can be set in 3-steps for the various receiving conditions. The filter shape of the manual notch can be adjusted in three steps, with more than 70dB of attenuation!

Professional 6m receiver

While most HF/50MHz transceivers share the preamp between the HF bands and 50MHz band, the IC-7700 uses an exclusive preamp and mixer especially for 50MHz. This preamp and mixer are tuned to the 50MHz band and improve cross modulation characteristics, particularly important when picking up a very weak signal near a strong station.

Digital Voice Recorder

The Digital Voice Recorder (DVR) is a convenient function for contests, DXpeditions, field day and even normal operation. Record your callsign, CQ, or other station information into a memory. Independent "Rec" and "Play" buttons are on the front panel.

USB ports in the front panel:

1 port for USB memory drive
1 port for USB keyboard

And more....

- Soft and sharp IF filter shapes for receiver
- Reverse power protection circuit built-in
- RS-232C port for PC connection
- BNC type RF accessory connectors
- Audio peak filter for CW
- Multi-function noise blanker
- Advanced noise reduction and auto notch
- Twin peak audio filter and tuning indicator for RTTY
- High speed automatic antenna tuner
- Built-in voice synthesizer
- Optional IC-PW1/EURO 1kW linear amplifier available

SPECIFICATIONS

GENERAL

- Frequency coverage :
  Europe Version*1
  Rx 0.030– 60.000MHz*2
  Tx 1.810– 1.999MHz 3.500– 3.800MHz
  7.000– 7.200MHz 10.100–10.150MHz
  14.000– 14.350MHz 18.068–18.168MHz
  21.000– 21.450MHz 24.890–24.990MHz
  28.000– 29.700MHz 50.000–52.000MHz
  U.S.A. Version
  Rx 0.030–60.000MHz*2
  Tx 1.800– 1.999MHz 3.500– 3.999MHz
  5.3305, 5.3465, 5.3665, 5.3715, 5.4035MHz*3
  7.000– 7.300MHz 10.100–10.150MHz
  14.000–14.350MHz 18.068–18.168MHz
  21.000–21.450MHz 24.890–24.990MHz
  28.000–29.700MHz 50.000–54.000MHz

  *1 Frequency ranges vary depending on version.
  *2 Some frequency ranges are not guaranteed.
  *3 Carrier point frequency.
- Mode : USB, LSB, CW, RTTY, PSK31, AM, FM
- Number of channels : 101 (99 regular, 2 scan edges)
- Antenna impedance : 50Ω unbalanced (Tuner off)
- Antenna connector : SO-239×4 and BNC×1
- Power supply requirement : 85–265V AC
- Temperature range : 0˚C to +50˚C; +32˚F to +122˚F
- Frequency stability : Less than ±0.05ppm (0˚C to +50˚C, after warm up)
- Frequency resolution : 1Hz (minimum)
- Power consumption : Tx Max. power 800VA
  Rx Stand-by 200VA (typ.)
  Max. audio 210VA (typ.)
- Dimensions (projections not included) : 424(W)×149(H)×435(D) mm; 16$\frac{11}{16}$(W)×5$\frac{7}{8}$(H)×17$\frac{1}{8}$(D) in
- Weight (approx.) : 24kg; 52.9lb

TRANSMITTER

- Output power (continuously adjustable) :
  SSB, CW, RTTY, PSK31, FM 5–200W
  AM 5–50W
- Modulation system :
  SSB DPSN modulation
  AM Digital low power modulation
  FM Digital phase modulation
- Spurious emission : More than 60dB (HF bands)
  More than 70dB (50MHz band)
- Carrier suppression : More than 63dB
- Unwanted sideband suppression: More than 80dB
- Microphone impedance : 600Ω (8-pin connector)

RECEIVER

- Receive system : Double conversion super-heterodyne system
- Intermediate frequencies :
  1st 64.455MHz
  2nd 36kHz
- Sensitivity (typical) :
  SSB, CW, RTTY, PSK31 (BW: 2.4kHz at 10dB S/N)
  0.1–1.799MHz 0.5μV*1
  1.8–29.999MHz 0.16μV*1
  50.0–54.0MHz 0.13μV*2
  AM (BW: 6kHz at 10dB S/N)
  0.1–1.799MHz 6.3μV*1
  1.8–29.999MHz 2μV*1
  50.0–54.0MHz 1μV*2
  FM (BW: 15kHz at 12dB SINAD)
  28–29.999MHz 0.5μV*1
  50.0–54.0MHz 0.32μV*2

  *1 Pre-amp 1 is ON, *2 Pre-amp 2 is ON.
- Squelch sensitivity (Pre-amp: OFF):
  SSB, CW, RTTY, PSK31 Less than 5.6μV
  FM Less than 1μV
- Selectivity (representative value):
  SSB, RTTY (BW: 2.4kHz) More than 2.4kHz/–3dB
  Less than 3.6kHz/–60dB
  CW (BW: 500Hz) More than 500Hz/–3dB
  Less than 700Hz/–60dB
  AM (BW: 6kHz) More than 6.0kHz/–3dB
  Less than 15.0kHz/–60dB
  FM (BW: 15kHz) More than 12.0kHz/–6dB
  Less than 20.0kHz/–60dB
- Spurious and image rejection ratio : More than 70dB
- Audio output power : More than 2.6W at 10% distortion with an 8Ω load
- RIT variable range : ±9.999kHz
- PHONES connector : 3-conductor 6.35 (d) mm (¼″)
- Ext. Speaker connector : 2-conductor 3.5 (d) mm (⅛″) /8Ω

ANTENNA TUNER

- Matching impedance range :
  HF bands 16.7–150Ω unbalanced*1
  50MHz band 20–125Ω unbalanced*2
  *1 Less than VSWR 3:1, *2 Less than VSWR 2.5:1
- Minimum operating input power :
  HF bands 8W
  50MHz band 15W
- Tuning accuracy : VSWR 1.5:1 or less
- Insertion loss : Less than 1.0dB (after tuning)

All stated features, appearances, screen shots and specifications may be subject to change without notice or obligation. All screens show simulated pictures.

REAR VIEW



This device has not been approved by the appropriate authorities in each country.
This device may not be sold or leased, or be offered for sale or lease, until approval has been obtained.

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